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FACULTY DEVELOPMENT PROGRAM ORGANISED BY

THE SCHOOL OF BASIC SCIENCE 2024-2025

"BASICS AND APPLICATIONS OF XPS"

The School of Basic Science has organised a Faculty Development Program (FDP) from 25.03.25 to 27.03.25, on Material Characterisation Techniques. Many eminent resource persons were invited to deliver talks on different characterisation techniques. On the first day, the FDP was inaugurated by Dr Bharat D, Hod Physics. The first lecture on "BASICS AND APPLICATIONS OF XPS" was delivered by Dr P. Bera, Principal Scientist, NAL, Bengaluru. The event was conducted in seminar hall 1.

X-ray photoelectron spectroscopy (XPS) or electron spectroscopy for chemical analysis (ESCA) is a surface analysis technique that provides elemental and chemical state information from a solid surface's outer 5 to 10 nanometres. All elements from lithium to uranium can be detected with detection limits at 0.1 to 0.5 atomic per cent. He explained the basic principles of XPS and detailed various sample preparation techniques.

He explained that XPS, with its ability to quantify elements and determine chemical states, is used in many branches of materials science, electronics, thin film chemistry, corrosion science, polymer modification, adhesion science, coating chemistry, catalysis, mineral processing chemistry, as well as in exploring fundamental aspects of the chemistry and physics of atoms and molecules. At the end, the guest was felicitated with a bouquet by Dr Sathish S, with a vote of thanks.

Outcome of the Event

The participants had a good opportunity to identify and enhance their domain knowledge in the field of XPS.